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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

LEIVA, FRANK M

ART UNIT

PAPER NUMBER

3714

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/937,082	Applicant(s) ISHII, KATSUHIRO	
	Examiner FRANK M. LEIVA	Art Unit 3714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 March 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 5-9, 14-18 and 23-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 5-9, 14-18 and 23-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Acknowledgements

1. The examiner acknowledges newly canceled claims 1, 3-4, 10, 12-13, 19 and 21-22 and amendments to independent claims 5-8, 14-17 and 23-26 in applicant's submission filed 06 March 2008.

Response to Arguments

2. Applicant's arguments with respect to claims 5-9, 14-18, 23-27 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112 1st Paragraph

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 8, 17 and 26 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The amended claims recite "draws the image of the geometry-processed object in the intermediate buffer at a rate slower than a frame rate at which an image is drawn in the frame buffer", which examiner has not found support for different rates of generation or speed.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 5, 14 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohba et al (US 6,500,069 B1), In view of Kobayashi (US 5,761,401).

7. Regarding combination US Patent 6,500,069 and US Patent 5,761,401; Ohba discloses an image processing method for generating images for a game; and Kobayashi discloses an image generating method with merging partial geometric images to speed up the generation process which is of importance in Ohba's disclosure.

8. **Regarding claims 5, 14 and 23; Ohba discloses**; a game system performing image generation, comprising a memory which stores a program and data for image generating; and at least one processor which is connected to the memory and performs processing for image generating, (abstract, fig. 2 and col. 9:40-67); the processor comprising: a geometry-processing section which performs three-dimensional perspective transformation on an object being set in an object space specified in a three-dimensional space including calculation of three-dimensional shape data for the object, (9:40-49); an intermediate buffer drawing section which temporarily draws an image of a geometry-processed object in an intermediate buffer in place of drawing the image in a frame buffer using three-dimensional viewpoint information provided in the three-dimensional object space and the three-dimensional shape data calculated by the geometry-processing section, (9:54-64); a frame buffer drawing section which draws the image of the geometry-processed object drawn in the intermediate buffer from the intermediate buffer into the frame buffer; and an image effect section which performs a given image effect processing on the image on the intermediate buffer before the image drawn in the intermediate buffer is drawn in the frame buffer, (9:40-67).

Ohba is not specific of how much is placed in an intermediate buffer; whereas Kobayashi discloses; an intermediate buffer drawing section which temporarily draws an image of a geometry-processed object in an intermediate buffer in place of drawing the image in a frame buffer using three-dimensional viewpoint information provided in the three-dimensional object space and the three-dimensional shape data calculated by the geometry-processing section; and a frame buffer drawing section which draws the image of some of the geometry-processed objects drawn in the intermediate buffer from the intermediate buffer and draws the image of the remaining ones of the plurality of geometry-processed objects into the frame buffer, (Abstract, Fig. 6b and col. 2:3-12). It would have been obvious to one of ordinary skill in the art at the time of applicants invention to combine the multiple buffer system of Kobayashi with Ohba's invention to increase efficiency in the development of special effects for certain components of the pictures.

9. Claims 6, 15 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohba et al (US 6,500,069 B1), In view of Shinohara (US 6,549,209 B1).

10. Regarding the combination with US patent 6,549,209; Shinohara discloses an image processing device and method which creates a residual image effect on the screen for visualizations on a game, effective for Ohba's disclosure.

11. Regarding claims 6, 15 and 24; Ohba discloses a game system performing image generation, comprising a memory which stores a program and data for image generating; and at least one processor which is connected to the memory and performs processing for image generating, (abstract, fig. 2 and col. 9:40-67);
the processor comprising: a geometry-processing section which performs three-dimensional perspective transformation on an object being set in an object space specified in a three-dimensional space including calculation of three-dimensional shape data for the object, (9:40-49); an intermediate buffer drawing section which temporarily draws an image of a geometry-processed object in an intermediate buffer in place of

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drawing the image in a frame buffer using three-dimensional viewpoint information provided in the three-dimensional object space and the three-dimensional shape data calculated by the geometry-processing section, (9:54-64); a frame buffer drawing section which draws the image of the geometry-processed object drawn in the intermediate buffer from the intermediate buffer into the frame buffer; and an image effect section which performs a given image effect processing on the image on the intermediate buffer before the image drawn in the intermediate buffer is drawn in the frame buffer, (9:40-67); a frame buffer drawing section which draws the image of the geometry-processed object drawn in the intermediate buffer from the intermediate buffer into the frame buffer, wherein the intermediate buffer drawing section draws the image of the geometry-processed object in the intermediate buffer only at a discrete subset of all frames, (9:54-57).

Ohba fails to disclose a "time based synthesis" with a blending of one previous image into the next one; whereas Shinohara discloses an image synthesizing section which synthesizes the image of the object drawn in the intermediate buffer at a present frame with a different representation of the same image drawn in the intermediate buffer at a past frame before the image drawn in the intermediate buffer is drawn in the frame buffer, (abstract and col. 2:39-col. 3:12). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to use the feature of residual image lagging of Shinohara in Ohba's invention if the game designer wished to add that specific effect to its visualizations of the game.

12. Claims 7, 16 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohba et al (US 6,500,069 B1), In view of Schechter et al. (US 6,487,565 B1).

13. Regarding to the combination with US patent 6,487,565; Schechter discloses generating images of a game by updating the previous images rendered and saving computation time in the process.

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14. Regarding claims 7, 16 and 25; Ohba discloses a game system performing image generation, comprising a memory which stores a program and data for image generating; and at least one processor which is connected to the memory and performs processing for image generating, (abstract, fig. 2 and col. 9:40-67); the processor comprising: a geometry-processing section which performs three-dimensional perspective transformation on an object being set in an object space specified in a three-dimensional space including calculation of three-dimensional shape data for the object, (9:40-49); an intermediate buffer drawing section which temporarily draws an image of a geometry-processed object in an intermediate buffer in place of drawing the image in a frame buffer using three-dimensional viewpoint information provided in the three-dimensional object space and the three-dimensional shape data calculated by the geometry-processing section, (9:54-64); a frame buffer drawing section which draws the image of the geometry-processed object drawn in the intermediate buffer from the intermediate buffer into the frame buffer; and an image effect section which performs a given image effect processing on the image on the intermediate buffer before the image drawn in the intermediate buffer is drawn in the frame buffer, (9:40-67); a frame buffer drawing section which draws the image of the geometry-processed object drawn in the intermediate buffer from the intermediate buffer into the frame buffer, wherein the intermediate buffer drawing section draws the image of the geometry-processed object in the intermediate buffer only at a discrete subset of all frames, (9:54-57).

Ohba fails to disclose a where a portion of the image is redrawn into the next image; whereas Schechter discloses an image synthesizing section which synthesizes at least one drawn in the intermediate buffer with an image drawn in the frame buffer at a previous frame before the image drawn in the intermediate buffer is drawn in the frame buffer, (abstract and col. 8:13-24). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to use the feature of redraw the previous image and building the next image from the previous image of Schechter in Ohba's invention if the game designer wished to save computation time to generate the images.

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15. Claims 8-9, 17-18 and 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohba et al (US 6,500,069 B1), In view of the state of the art.

16. Regarding claims 8, 17 and 26; Ohba discloses a game system performing image generation, comprising a memory which stores a program and data for image generating; and at least one processor which is connected to the memory and performs processing for image generating, (abstract, fig. 2 and col. 9:40-67); the processor comprising: a geometry-processing section which performs three-dimensional perspective transformation on an object being set in an object space specified in a three-dimensional space including calculation of three-dimensional shape data for the object, (9:40-49); an intermediate buffer drawing section which temporarily draws an image of a geometry-processed object in an intermediate buffer in place of drawing the image in a frame buffer using three-dimensional viewpoint information provided in the three-dimensional object space and the three-dimensional shape data calculated by the geometry-processing section, (9:54-64); a frame buffer drawing section which draws the image of the geometry-processed object drawn in the intermediate buffer from the intermediate buffer into the frame buffer; and an image effect section which performs a given image effect processing on the image on the intermediate buffer before the image drawn in the intermediate buffer is drawn in the frame buffer, (9:40-67); a frame buffer drawing section which draws the image of the geometry-processed object drawn in the intermediate buffer from the intermediate buffer into the frame buffer; wherein the intermediate buffer drawing section draws the image of the geometry-processed object in the intermediate buffer at a rate slower than a frame rate at which an image is drawn in the frame buffer, (9:54-57), wherein it is well-known that to add geometric algorithms to create three dimensional images is an extra step that slows down the reproduction of images on the screen.

17. Regarding claims 9, 18 and 27; Ohba discloses wherein when the images of plural geometry-processed objects are drawn in the intermediate buffer, the intermediate buffer drawing section draws an image of a K-th object in the intermediate

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buffer at a N-th frame and draws an image of a L-th object in the intermediate buffer at a (N+1)-th frame without drawing the image of a new K-th object in the intermediate buffer, (9:40-59), where is established that the frame buffers hold the polygon data of a plurality of objects Nth amount and the frame buffers are subdivided inherently to Nth number of subdivisions as objects there are.

18. Examiner's Note: Examiner has cited paragraphs and figures in the references as applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant, in preparing the responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to FRANK M. LEIVA whose telephone number is (571)272-2460. The examiner can normally be reached on M-Th 9:30am - 5:pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert E. Pezzuto can be reached on (571) 272-6996. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Robert E Pezzuto/

Supervisory Patent Examiner, Art Unit 3714

FML

08/21/2008